

## 3.2 Noise

The following analysis is based on the acoustical study prepared by Investigative Science and Engineering (ISE). The technical report is included as Appendix D of this EIR.

### 3.2.1 Existing Conditions

The project site is located within the unincorporated portion of the County, within the Jamul-Dulzura Community Plan area. The site has been dry farmed for over 40 years and is currently utilized for dry farming oat hay. Presently, there are three onsite residences. Land uses to the north consist of estate residential single-family uses on lots ranging in size from one acre to four acres, with larger lots located on steeper terrain. Several of these surrounding parcels contain horsekeeping enclosures. Located to the east of the project site, the Rancho Jamul Estates development consists of low-density, single-family estate uses on lots ranging from two to three acres in size. As with the northern parcels, several lots contain horsekeeping enclosures. Directly south of the project site is the Daley Ranch, an expansive dedicated open space area under the jurisdiction of the California Department of Fish and Game (CDFG). The major source of ambient noise levels is from automobiles traveling on State Route 94, which borders the property on the west.

#### *Regulatory Conditions – County Noise Criteria*

Generally, noise is defined as an unwanted sound. The long-term effects of excessive noise exposure are physical as well as psychological. Physical effects may include headaches, nausea, irritability, constriction of blood vessels, changes of heart and respiratory rate, and increased muscle tension. Prolonged exposure to high noise levels may result in hearing damage. In addition, psychological effects may result from the stress and irritability associated with a change in sleeping patterns due to excessive noise.

The County of San Diego typically describes community noise levels in terms of the community noise equivalent level (CNEL). The CNEL is the average A-weighted sound level<sup>1</sup> (a measurement that correlates noise frequencies to the frequency response of the human ear) during a 24-hour day. It is obtained by adding five decibels (dB) to sound levels in the evening hours (7 p.m. to 10 p.m.) and by adding ten dB to sound levels during the nighttime (10 p.m. to 7 a.m.). The 5- and 10-dB penalties are applied to take into account increased noise sensitivity during evening and nighttime hours. The A-weighted scale measures noise levels corresponding to the human hearing frequency response. All sound levels discussed in this analysis are A-weighted (dBA).

The County has established exterior noise guidelines in the Noise Element of the County's adopted *General Plan*. These guidelines identify compatible exterior noise levels for various land use types. The maximum acceptable noise level for new residential development is 60 dB CNEL; this criterion is applied to outdoor noise-sensitive land uses. The County requires that interior noise levels not exceed a CNEL of 45 dB. To control excessive noise generated within County limits, the County has adopted a quantitative Noise Ordinance with limits

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<sup>1</sup> The acoustical terminology used in this section is provided in Appendix C of this EIR.

expressed in terms of a one-hour average sound level. The allowable noise limits depend upon the County's applicable zoning district and time of day.

The applicable Noise Ordinance limits for the Peaceful Valley Ranch project, at any point on or beyond the boundary of the project site, are that the one-hour average noise levels shall not exceed 50 dB between the hours of 7 a.m. and 10 p.m. or 45 dB between 10 p.m. and 7 a.m. at the adjoining residential property. In addition, if the measured ambient noise levels exceed the applicable limit noted above, the allowable one-hour average noise levels are the ambient noise level.

Construction noise is also governed by the Noise Ordinance, which restricts the allowable hours of construction activities to between 7 a.m. and 7 p.m., Monday through Saturday, excluding legal holidays. Furthermore, the noise levels associated with construction activities at residential receptors are not to exceed 75 dB, averaged over an eight-hour period per day.

#### *Physical Conditions – Ambient Noise Level*

An integrating sound level meter\* was used as the data collection device. The meter was placed at four separate locations within the project site to ascertain existing ambient noise levels as well as any variation across the project area. Figure 3.2-1 depicts the modeled onsite receptor locations. The meter was mounted to a tripod approximately five feet above the ground and was placed at project frontages having both a worst-case noise exposure (along Campo Road [SR-94]) and typical rural noise exposure to the north and east. The measurements were performed on March 2, 2004, between 1:00 p.m. and 5:00 p.m., during typical afternoon traffic conditions.

Testing conditions during the monitoring period were sunny; the average barometric pressure reading was 29.97 in-Hg; the wind was southwesterly and averaged four to seven miles per hour (mph); and the approximate mean temperature was 74 degrees Fahrenheit. The values for the equivalent sound level (Leq-h), the maximum and minimum measured sound levels (Lmax and Lmin), and the statistical indicators L10, L50, and L90 (noise levels equaled or exceeded during 10 percent, 50 percent, and 90 percent of a stated time) are given for each monitoring location. The observed existing dominant noise source was SR-94. The results of the noise level measurements are depicted in Table 3.2-1.

Noise levels onsite were found to be consistent with the observed community setting and worst-case proximity to existing noise sources. The Leq values for the project site ranged from approximately 59 dBA near Campo Road to approximately 39 dBA on the northern boundary. These sound levels were solely a function of the separation distance from the roadway, traffic mix, and intervening topography. Background noise levels (i.e., L90 levels) were found to be relatively lower than their energy equivalent counterparts (e.g., Leq-h), indicating that Campo Road is the dominant noise source. The acoustic floor (as indicated by the Lmin metric), of the site was found to range between 31 to 45 dBA, indicating a rural community setting. The acoustic ceiling for the project is as high as 68 dBA near Campo Road.

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\* Quest Model 2900, Type 2 of American National Standards Institute (ANSI).

### 3.2.2 Guidelines for the Determination of Significance

Guidelines to define significant impacts resulting from the exposure of people to excess noise levels have been established. These guidelines have been established in conjunction with Appendix G of the CEQA Guidelines, the County of San Diego *General Plan* (General Plan) Noise Element, and the County of San Diego Noise Ordinance (Noise Ordinance) to ensure the guidelines are accurate and effective tools in determining impacts from noise. The guidelines have been included because they are effective screening tools in identifying potential noise impacts. These guidelines are effective because they cover a range of possible scenarios and establish controls for the generation of or exposure of people to excess noise levels that may result from implementation of a project. Exceedance of the following guidelines are considered substantial evidence that a significant impact related to noise would occur if project implementation would:

- 1) Whenever it appears that new development may result in any (existing or future) noise sensitive land use being subject to noise levels of CNEL equal to 60 decibels (A) or greater, an acoustical analysis shall be required.
- 2) If the acoustical analysis shows that noise levels at any noise sensitive land use will exceed CNEL equal to 60 decibels, modifications shall be made to the development which reduce the exterior noise level to less than CNEL of 60 decibels (A) and the interior noise level to less than CNEL of 45 decibels (A)<sup>2</sup>.
- 3) If modifications are not made to the development in accordance with paragraph 2 above, the development shall not be approved unless a finding is made that there are specifically identified overriding social or economic considerations which warrant approval of the development without such modification; provided, however, if the acoustical study shows that sound levels for any noise sensitive land use will exceed a CNEL equal to 75 decibels (A) even with such modifications, the development shall not be approved irrespective of such social or economic considerations.
- 4) Onsite noise generated by the project will exceed the standards listed under the San Diego County Code of Regulatory Ordinances, Section 36.404, Sound Level limits at or beyond the property line.
- 5) Noise generated by the construction of the project will exceed the construction equipment standards listed in the San Diego County Code of Regulatory Ordinances, Section 36.410, Construction Equipment.
- 6) In cases where existing noise levels already exceed the applicable noise guideline the following guideline for significant shall apply:

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<sup>2</sup>**Action Program 4b1:** Recommend programs to soundproof buildings or redevelop areas where it is impossible to reduce existing source noise to acceptable levels.

**Action Program 4b2:** Study the feasibility of extending the application of Section 1092, California Administrative Code dealing with noise insulation standards to single-family dwellings, and incorporating higher standards for reduction of exterior noise intrusion into structures.

**Action Program 4b3:** Require present and projected noise level data to be included in Environmental Impact Reports. Designs to mitigate adverse noise impacts shall also be used.

- a) The onsite noise generated by the project will increase received noise levels at or beyond the property line by 1 dB. The received levels refer to the sum of the contributions from all sources on the project site (property).<sup>3</sup>
  - b) Project implementation will expose on- or off-site, existing and planned Noise-Sensitive Land Uses to road, railroad, airport, or heliport noise 3 dB CNEL over existing noise levels and are not to exceed 65 dB CNEL.<sup>4</sup>
- 7) Project implementation exceeds a one-hour average sound level of 60 decibels (dBA) for noise sensitive avian habitat on a seasonal basis.

### 3.2.3 Analysis of Project Effects and Determination of Significance

#### *Construction-Related Noise*

Project-related construction activities would occur during the County's allowable hours of operation. The noise levels generated by construction equipment would vary greatly, depending upon factors such as the type and specific model of the equipment, the particular operation being performed, and the condition of the equipment. Construction noise emission generators would consist primarily of activities such as earthwork haulage, delivery of concrete and other supplies, graders and pavers, contractor vehicles, and ancillary operating equipment such as diesel-electric generators and lifts. Construction noise at the project site was estimated based upon typical measured levels of each expected equipment type, the duty cycle of each of the equipment components, and the expected 8-hour energy average noise level (over a given workday), as well as the expected worst-case noise level at the nearest sensitive receptor.<sup>5</sup> Cumulative (i.e., worst case aggregate) levels were calculated for a range of expected noise emissions from the proposed equipment at the closest sensitive receptor, per the requirements of Section 36.410 of the County's Noise Ordinance.

The estimated construction equipment noise emissions for the following typical construction phases are shown in Tables 3.2-2 through 3.2-4.

- Rough Grading (i.e., clearing, grubbing, and general pad and road alignment formation). This typically consists of three distinct phases: mobilization, scraper hauls and finishing, and additional site-finishing work.
- Underground Utility Construction (i.e., general trench-work, pipe laying with associated base material and cover, and ancillary earthwork required to facilitate placement of water pipe systems, etc.).
- Paving Activities (including the movement of any remaining material as well as necessary curb and gutter work, road base material placement, and blacktop).

Construction within the proposed project area would typically occur between the hours of 7 a.m. and 7 p.m. Monday through Saturday, in accordance with County operational requirements, and would be primarily utilized in an incremental fashion over the course of

<sup>3</sup> Based on Section 36.404 of the San Diego County Noise Ordinance.

<sup>4</sup> Based on accepted acoustical practice/literature pertaining to road, railroad, airport, or heliport noise impacts on NSAs.

<sup>5</sup> Environmental Protection Agency, EPA PB 206717, *Noise from Construction Equipment and Operations*, 12/31/71.

construction in accordance with future building needs. The nearest property line interface with respect to the closest offsite residential structure is approximately 160 feet (from Lot 44) distant from any proposed construction activities. The point-source attenuation between this receptor and any construction would be approximately -10 dBA. As a result, due to the operational nature of the equipment and typical number used, noise levels resulting from construction are not anticipated to be significant. Propagated construction noise levels at the nearest receptors would be below the County's established threshold of 75 dBA. Therefore, impacts are considered to be less than significant. Additionally, no sensitive avian habitat was found onsite and adjacent to the project boundaries.<sup>6</sup> Therefore, no significant biological noise impacts are expected as a result of project-related construction noise.

### ***Project Operations –Traffic Noise***

#### *Offsite Traffic Noise*

The increase in vehicular traffic noise levels along major servicing roadways due to the proposed Peaceful Valley Ranch project was calculated using a noise prediction model. ISE used its Road Noise v1.0 traffic noise prediction model, based upon Caltrans Sound 32 Traffic Noise Prediction Model with California (CALVENO) noise emission factors (based on FHWA RD-77-108 and FHWA/CA/TL-87/03 standards). The model assumed a “soft-site” propagation rule, resulting in a representative worst-case noise contour set. Peak-hour traffic values were calculated for a 10% traffic flow pattern and a 94/4/2 (automobiles/medium/heavy-vehicles) percent mix in accordance with the Major Roadway nature of SR-94. The results show the effect of traffic noise increases on the roadway segments associated with the proposed project, as presented in Tables 3.2-5 through 3.2-14.

For each roadway segment examined, the worst-case average daily traffic (ADT) volume and observed/predicted speeds are shown along with the corresponding reference noise level at a 50-foot distance (in dBA); refer to Tables 3.2-5 and 3.2-6. Additionally, the line-of-sight distance to the 60- and 65-dBA CNEL contours were used as an indication of the worst-case theoretical traffic noise contour placement without the effects of topography. Traffic data indicate that the largest project-related noise increase would occur along SR-94; however, the worst-case increase would be 2.6 dBA CNEL (Table 3.2-14), which is below the 3 dBA significance threshold. Therefore, no significant noise impacts along major servicing roadways due to the proposed project are expected. Noise level increases on all other project-related roadway segments would also be below the normally accepted impact threshold of 3 dBA.

#### *Onsite Traffic Noise*

The Caltrans Sound 32 Traffic Noise Prediction Model with California (CALVENO) noise emission factors (*based on FHWA RD-77-108 and FHWA/CA/TL-87/03 standards*) were used to calculate future onsite vehicular traffic noise levels. Model input included a digitized representation of SR 94, as well as future Average Daily Traffic (ADT) volumes from the project traffic study (*Source: Traffic Study for Peaceful Valley Ranch in the County of San Diego, Linscott Law & Greenspan. 3/05*), vehicle mix, receptor elevations, and any

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<sup>6</sup> Helix Environmental, *Biological Technical Report for Peaceful Valley Ranch*, July 26, 2006.

applicable topographical attenuation identified in the project site plans provided by RBF Consultants, Inc. dated March 2005 as well as ISE's GIS database (*Source: USGS 2003 Digital Elevation Model*).

The modeled receptor locations and the approximate future 60 dBA CNEL noise contours for both first and second floor areas are based on a worst-case scenario; refer to Figure 3.2-1. The model assumed a "soft" site sound propagation rule (i.e., a 4.5-dBA loss per doubling of distance from roadway to receiver) in accordance with the existing and proposed site conditions. The future 60 dBA CNEL contours are based on two types of model receptors. Receptor elevations were considered five feet above the appropriate floor (pad) elevation and were taken near the center of the proposed yard areas of each lot examined. Second floor receptor areas were modeled at 15 feet above the respective pad elevation. Peak-hour traffic values were calculated for a 10% traffic flow pattern and a 94/4/2 (automobiles/medium/heavy-vehicles) percent mix in accordance with the Major Roadway nature of SR-94. The centerline distance from Campo Road for first story/ground noise sensitive receptors was estimated to be 340 feet. The 60-dBA CNEL contour for second story locations was estimated to be 390 feet from the centerline of Campo Road.

**Impact 3.2.3-1:** The primary source of future Year 2030 noise near the project site would be from vehicular traffic associated with project developments along SR-94 (i.e., within the project area). This roadway is expected to have a worst-case Year 2030 future traffic volume of 24,200 ADT, consisting of project-generated and surrounding use traffic. This roadway segment was modeled at the worst-case scenario of having a projected speed of 55 mph based upon the two-lane Major Roadway segment classification (south of Melody Road) and proposed alignment. The results of the acoustical modeling are shown in Tables 3.2-7 through 3.2-11. Based on the model results, residential outdoor useable areas within Lot 1 of the proposed project area would exceed the County's noise thresholds of 60 dBA; refer to Figure 3.2-1. It should also be noted that if Lots 48 or 49 were used for residential uses in the future, they would be required to conform to the 60 dBA noise abatement threshold.

The County requires that interior noise levels not exceed a CNEL of 45 dB. Typically, with the windows open, building shells provide approximately 15 dB of noise reduction. Therefore, rooms exposed to an exterior CNEL greater than 60 dB could result in an interior CNEL greater than 45 dB, which would be a significant impact.

### ***Project Operations – Onsite Stationary Noise***

Onsite noise generation due to the proposed project would include heating, ventilating, and air conditioning (HVAC) systems designed for single-family use and the continued use of three of the five existing wellheads onsite. The remaining two wellheads would be either destroyed or used for monitoring purposes, following project implementation; refer to Figure 3.4-2. The HVAC units typically produce average level events of 48 to 50 dBA at 50 feet from the source.<sup>7</sup> The lot layout for the project has a minimum lot size of two acres, thereby providing adequate attenuation distance between adjacent properties. HVAC activity would be below the significance criteria, and no significant impacts would result.

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<sup>7</sup> Investigative Science and Engineering, *Acoustical Site Assessment – Hart Site Assessment*, 2002.

The operational pumps at locations PV1 (Lot 51) and PV5 (Lot 42) on Figure 5 are submersible units each rated at five (5) horsepower or less and they include electrical junction/transformer boxes. The PV4 submersible pump will also be rated at 5 horsepower when upgraded. The predominant noise measured at each wellhead location is the hum from the junction box that generates no more than 47 decibels at a reference distance of five (5) feet. Any future pump replacement at these three active sites would be in compliance with the County Noise Ordinance at the closest property line if this equipment does not exceed the observed levels. An ongoing condition of approval will be necessary to insure future compliance of replacement pumps while the existing condition would be an important design consideration to document the basis for this recommendation.

The County of San Diego approved a site plan (STP 04-042) for the Rural Fire Protection District which included an acoustical study for the proposed fire station use (Lot 49). Additionally, the private equestrian facility (Lot 51) will operate for daily rider use seven days a week. Most daily use activities will occur from dawn until dusk. However, typical horse care activities by the facility operator, staff, and/or horse owners or veterinarians, such as grooming, exercise and veterinary work, may occur daily from predawn until after dusk. However, in order to avoid any potential for exceeding the standards and requirements of the County Noise Ordinance, conditions of the Lot 51 MUP will stipulate that all mechanized maintenance activities, including polo field mowing, will be limited to the hours of 7:00 am to 7:00 pm daily.

### **3.2.4 Cumulative Impact Analysis**

#### ***Cumulative Traffic Noise***

The cumulative impact analysis evaluates cumulative impacts to noise sensitive uses in the area surrounding the proposed project site; refer to Figure 3.2-2. Noise sensitive uses in the area include existing residences along the SR-94 corridor. Currently, three proposed projects would be exposed to traffic noise generated by the proposed project, due to their location and access to similar roadways; refer to Table 1-4. These projects include the Jamul Indian Village Casino Development project, the Blanco Parcel Map (TPM 20599 RPL1), and the Hendrix Subdivision (TM 5154RPL).

Two of the significance criteria listed above, criteria number one and criteria number 5b, were considered and analyzed in regards to cumulative onsite traffic noise impacts to noise sensitive receptors. The existing noise levels of the SR-94 segment are above 60 dBA, therefore criteria number one does not apply. However, criteria 5b applies to this analysis because it addresses project impacts when the existing noise levels are above 60 dBA.

Tables 3.2-13a and b through 3.2-14 provide a breakdown of how the proposed project and cumulative projects contribute to traffic noise levels in the area. Table 3.2-13b shows that segments on SR-94 north of Melody Road would not be adversely affected because the traffic noise level increase would not exceed 3 dBA threshold.

For the roadway segment of SR 94 immediately south of Melody Road, the cumulative noise increase totals 3.5 dBA. A 3.5 dBA increase would result in a significant impact. However, Table 3.2-13b shows that the proposed project's contribution to the cumulative impact is 0.2 dBA CNEL or approximately 5.7%, which is less than the 3 dBA significance criteria. Because the project contributes 0.2 dBA to the increase in cumulative traffic noise, which is

significantly less than the 3 dBA significance criteria, potential offsite traffic noise generated by the proposed project is not regarded as cumulatively considerable.

### ***Cumulative Construction Noise***

Additionally, cumulative construction noise impacts were not identified because the projected cumulative construction vehicle ADT is not great enough to generate noise levels above the County's 75-dBA construction threshold, that would adversely affect (or touch the construction noise contours) of any of the cumulative projects; refer to Appendix D. Therefore, the project would not contribute to a cumulatively considerable noise impact as the result of construction activities.

### **3.2.5 Growth-Inducing Impacts**

As discussed in Section 1.7 of this EIR, the proposed project would not induce growth. The Peaceful Valley Ranch development would not remove obstacles to population growth or encourage or facilitate other activities that could significantly affect the environment, either individually or cumulatively. Therefore, no growth inducing impacts relating to noise would occur as a result of the proposed project.

### **3.2.6 Mitigation Measures**

The following mitigation measures are proposed to mitigate the project's impacts associated with noise.

## **Project Operations**

### ***Onsite Traffic Noise***

#### **3.2.3-1 On the final map the applicant shall:**

Grant to the County of San Diego a Noise Protection Easement over the entire area of Lots 1, 48, and 49 of Tentative Map TM5341RPL5. This easement is for the mitigation of present and anticipated future excess noise levels on noise-sensitive land uses of the affected Lots. The easement shall require:

Prior to the issuance of any building permit for any residential use within the noise protection easement, the applicant shall:

- 1) Complete to the satisfaction of the Director of the Department of Planning and Land Use, a site-specific acoustical analysis performed by a County certified acoustical engineer, demonstrating that the present and anticipated future noise levels for the interior noise sensitive areas and exterior noise sensitive areas (useable space) of residential dwellings will not exceed the allowable sound level limit of the Noise Element of the San Diego County General Plan [interior (45 dBA CNEL), exterior (60 dBA CNEL)]. Future traffic noise level estimates for Campo Road (SR-94), must utilize a Level of Service "C" traffic flow for a major road classification which is designated General Plan Circulation Element Buildout roadway classification south of Melody Road.



- 2) Incorporate to the satisfaction of the Director of the Department of Planning and Land Use all the recommendations or mitigation measures of the acoustical analysis into the project design and building plans.

### **3.2.7 Conclusions**

Implementation of the mitigation measures listed in Section 3.3.6 (above) would reduce potential noise impacts associated with the project to less than significant.

### **Project Operations**

#### ***Onsite Traffic Noise***

Implementation of Mitigation Measure 3.2.3-1 would ensure that interior and exterior noise levels in the buildings on Lots 1, 48, and 49 would be consistent with the County Noise Ordinance, which requires and confirms that interior and exterior sound levels do not exceed 45 dBA CNEL and 65 dBA CNEL, respectively. The requirement for a Noise Protection Easement would allow for a site-specific acoustical analysis to be completed when building designs and building materials have been identified and selected, prior to the issuance of any building permits based on the proposed building designs.

Because the precise future locations of onsite residential structures are not known, the County may request a Noise Protection Easement (NPE) for lots identified within the 60 dBA CNEL noise contour (1, 48, and 49); refer to Figure 3.2-1. The NPE would restrict development within these lots to the extent that proposed exterior usable space (i.e., noise sensitive areas) would require mitigation to 60 dBA CNEL or less. Additional site-specific analysis would be required to determine appropriate mitigation for these lots.

This mitigation measure would accommodate minor changes to building pads as shown on the current grading plan, as the pads may be moved or established in alternate locations at the time when individual lot development occurs. The acoustical analysis would demonstrate that the interior and exterior of the residential dwellings would not exceed the allowable sound level limits of the San Diego County General Plan Noise Element. The analysis would be completed to the satisfaction of the Director of the Department of Planning Land Use. With implementation of this mitigation measure, potential noise impacts related to traffic would be reduced to less than significant.

The NPE would provide an effective method to review the final design for both interior and exterior noise impacts, prior to the issuance of building permits and would identify the need for additional noise reduction measures, such as screen perimeter walls around future noise sensitive use areas (i.e. rear yard areas, rear patios, and pool areas or similar uses) to mitigate exterior noise levels within the County's acceptable 60 dBA CNEL noise threshold; refer to Figure 3.2-3 for potential mitigation in the form of a barrier, approximately eight feet in height to reduce potential noise impacts to less than significant. Additionally, residential structures are typically 15 to 20 feet above finished floor and if properly oriented and designed (i.e. front yard area facing the dominant noise source), could be used as effective mitigation to reduce noise impacts.

The acoustical study prepared for the proposed project analyzed the effectiveness of constructing a noise attenuation barrier around future noise sensitive land uses on Lots 1, 48

and 49. The study shows that placement of a noise attenuation barrier (e.g. screening wall, berm, or wall and berm combination) is a feasible design measure that can reduce the exterior noise levels to 60 dBA CNEL or less. The study shows that noise attenuation measures are feasible and that they will reduce noise levels to below a level of significance. Furthermore, with proposed lot sizes of a minimum two acres, the future lots will have adequate area to implement such design features.

**Table 3.2-1  
Measured Ambient Sound Levels**

Site	Start Time	1-Hour Noise Level Descriptors (dBA)					
		Leq	Lmax	Lmin	L10	L50	L90
ML 1	1:00 p.m.	59.0	68.1	41.1	60.5	55.1	51.2
ML 2	2:05 p.m.	50.5	65.1	31.4	55.0	37.7	33.2
ML 3	3:10 p.m.	59.4	66.0	44.7	61.0	55.3	50.1
ML 4	4:15 p.m.	39.2	47.0	31.2	42.5	37.4	33.3

dBA = A-weighted decibels

Monitoring Location (MLs):

Measurements performed by ISE on March 2, 2004. Estimated position error (EPE) = 16 feet.

- ML 1: Southwestern portion of project along Campo Road – GPS 32° 42.402 x -116° 52.226 per Global Positioning System (GPS). Meter was located approximately 50 feet from roadway centerline.
- ML 2: Northwestern portion of the project site – GPS 32° 42.598 x -116° 51.671.
- ML 3: Southeastern portion of project along Campo Road – 32° 42.238 x -116° 52.062 per GPS. Meter was located approximately 50 feet from roadway centerline.
- ML 4: Central eastern portion of project site - GPS 32° 42.244 x -116° 51.574.

**Table 3.2-2  
Predicted Construction Noise Levels – Rough Grading Operations**

Equipment Type	Qty. Used	Duty Cycle (Hrs. / day)	Source Level @ 50 Feet (dBA)	Average Sound Level 7 a.m. to 7 p.m. @ 50 Feet (dBA)
Bulldozer	2	8/12	75	77.0
Loader	2	8/12	70	72.0
Water Tank Truck	1	8/12	70	69.0
Scraper	2	8/12	80	82.0
Worst-Case Aggregate Sum @ 50 feet ( $\Sigma$ ):				83.7
<b>Average Sound Level between 7 a.m. and 7 p.m. @ 160 ft.:</b>				<b>73.6</b>

dBA = A-weighted decibels

Source: Environmental Protection Agency, EPA PB 206717, *Noise from Construction Equipment and Operations*, 12/31/71.

**Table 3.2-3**  
**Predicted Construction Noise Levels – Underground Utility Construction**

Equipment Type	Qty. Used	Duty Cycle (Hrs. / day)	Source Level @ 50 Feet (dBA)	Average Sound Level 7 a.m. to 7 p.m. @ 50 Feet (dBA)
Backhoe	3	8	75	78.8
Loader	2	8	70	72.0
Concrete Truck	6	0.5	75	69.8
Dump Truck	5	0.5	75	69.0
Worst-Case Aggregate Sum @ 50 feet ( $\Sigma$ ):				80.4
<b>Average Sound Level between 7 a.m. and 7 p.m. @ 160 ft.:</b>				<b>70.3</b>

dBA = A-weighted decibels

Source: *Noise from Construction Equipment and Operations*, Environmental Protection Agency, EPA PB 206717, 12/31/71.

**Table 3.2-4**  
**Predicted Construction Noise Levels – Surface Paving Operations**

Equipment Type	Qty. Used	Duty Cycle (Hrs. / day)	Source Level @ 50 Feet (dBA)	Average Sound Level 7 a.m. to 7 p.m. @ 50 Feet (dBA)
Dump/Haul Truck	25	0.5	75	76.0
Paver	1	8	70	69.0
Roller	2	8	75	77.0
Worst-Case Aggregate Sum @ 50 feet ( $\Sigma$ ):				79.9
<b>Average Sound Level between 7 a.m. and 7 p.m. @ 160 ft.:</b>				<b>69.8</b>

dBA = A-weighted decibels

Source: *Noise from Construction Equipment and Operations*, Environmental Protection Agency, EPA PB 206717, 12/31/71.

**Table 3.2-5  
Existing Noise Conditions**

Roadway Segment		Volume (ADT)	Vehicle Speed (MPH)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60- dBA CNEL Contour
SR-94	Jamacha Road to Steele Canyon Road	20,600	50	73.7	191	411
	Steele Canyon Road to Lyons Valley Road	18,000	50	73.1	174	375
	Lyons Valley Road to Melody Road	11,900	50	71.3	132	285

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-6  
Existing-Plus-Project Conditions Noise Levels**

Roadway Segment		Volume (ADT)	Vehicle Speed (MPH)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60- dBA CNEL Contour
SR-94	Jamacha Road to Steele Canyon Road	21,200	50	73.8	194	419
	Steele Canyon Road to Lyons Valley Road	18,670	50	73.3	179	385
	Lyons Valley Road to Melody Road	12,610	55	72.5	159	343

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-7  
Year 2030 with SC 760 Roadway (Proposed Casino) Noise Levels**

Roadway Segment		Volume (ADT)	Vehicle Speed (mph)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60-dBA CNEL Contour
SR-94	Jamacha Road to Steele Canyon Road	33,500	50	75.8	264	568
	Steele Canyon Road to Lyons Valley Road	31,800	50	75.6	255	549
	Lyons Valley Road to Melody Road	15,500	55	73.4	182	393

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-8  
Year 2030 with SC 760 Roadway (Worst-Case Scenario) Noise Levels**

Roadway Segment		Volume (ADT)	Vehicle Speed (mph)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60-dBA CNEL Contour
SR-94	Jamacha Road to Steele Canyon Road	38,800	50	76.5	291	626
	Steele Canyon Road to Lyons Valley Road	31,800	50	75.6	255	549
	Lyons Valley Road to Melody Road	16,500	55	73.7	190	410

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-9  
Year 2030 Without SC 760 Roadway (Proposed Casino) Noise Levels**

Roadway Segment		Volume (ADT)	Vehicle Speed (mph)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60-dBA CNEL Contour
SR-94	Jamacha Road to Steele Canyon Road	33,500	50	75.8	264	568
	Steele Canyon Road to Lyons Valley Road	21,200	50	73.8	194	419
	Lyons Valley Road to Melody Road	15,600	55	73.5	183	395

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table-3.2-10  
Year 2030 Without SC 760 Roadway (Worst-Case Scenario) Noise Levels**

Roadway Segment		Volume (ADT)	Vehicle Speed (mph)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60-dBA CNEL Contour
SR-94	Jamacha Road to Steele Canyon Road	38,800	50	76.5	291	626
	Steele Canyon Road to Lyons Valley Road	32,200	50	75.7	257	553
	Lyons Valley Road to Melody Road	16,500	55	73.7	190	410

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-11  
Onsite Transportation Noise Levels**

<b>Lot No.</b>	<b>Unmitigated Ground Level (dBA)</b>	<b>Mitigated Ground Level (dBA)</b>	<b>Mitigated Second Level (dBA)</b>
48	56.8	56.8	58.9
49	61.5	61.5	62.5
46	55.5	55.5	55.8
47	54.2	54.2	55.0
45	53.1	53.1	53.4
1	61.7	60.1	61.8
50	57.2	57.2	57.3
2	54.7	54.5	55.2
4	54.1	54.1	54.1
7	50.7	50.7	51.4
20	45.1	45.1	45.1
21	43.7	43.7	43.7

dBA = A-weighted decibels



**Table 3.2-12  
Alternatives to the Proposed Project (Noise Impacts)**

<b>Impact Category</b>	<b>No Development Alternative</b>	<b>No Project Alternative</b>	<b>Existing Land Use Alternative</b>	<b>Residential Use Alternative</b>	<b>No Groundwater Alternative</b>
Noise Impact as Compared to the Proposed Project	Lesser	Lesser	Greater	Greater	Similar
Justification	No development proposed adjacent to SR-94	Fewer residential units proposed adjacent to SR-94	Greater # of residential units proposed adjacent to SR-94	Greater # of residential units proposed adjacent to SR-94	Same # and distribution of residential units as proposed project
Fire Station Included?	No (On leased parcel – not part of project)	No (On leased parcel – not part of project)	Yes (Parcel reserved)	Yes (Parcel reserved)	Yes (Parcel reserved)

**Table 3.2-13a  
Existing Plus Cumulative Projects Noise Levels**

<b>Roadway Segment</b>		<b>Volume (ADT)</b>	<b>Vehicle Speed (mph)</b>	<b>SPL at 50 feet</b>	<b>Distance to 65-dBA CNEL Contour</b>	<b>Distance to 60-dBA CNEL Contour</b>
<b>SR-94</b>	Jamacha Road to Steele Canyon Road	34,925	50	76.0	271	584
	Steele Canyon Road to Lyons Valley Road	33,612	50	75.8	264	569
	Lyons Valley Road to Melody Road	20,440	55	74.6	219	473

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-13b**  
**Existing Plus Project Plus Cumulative Projects Noise Levels**

	Roadway Segment	Volume (ADT)	Vehicle Speed (mph)	SPL at 50 feet	Distance to 65-dBA CNEL Contour	Distance to 60- dBA CNEL Contour
<b>SR-94</b>	Jamacha Road to Steele Canyon Road	35,525	50	76.1	274	591
	Steele Canyon Road to Lyons Valley Road	34,282	50	75.9	268	577
	Lyons Valley Road to Melody Road	21,150	55	74.8	224	484

dBA = A-weighted decibels

CNEL = community noise equivalent level

mph = miles per hour

SPL = sound pressure level

ADT = average daily traffic

- Peak-Hour Volume – Source: *Traffic Impact Assessment*, LL&G, Inc., March 2005.
- All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

**Table 3.2-14**  
**Project-Related Traffic Noise Increase**

	Roadway Segment Name	Existing (SPL)	Existing Plus Project (SPL)	Project- Related Difference (SPL)	Existing plus Cumulative (SPL)	Existing plus Cumulative plus Project (SPL)	Project- Related Difference (SPL)	Cumulative Related Difference
<b>SR-94</b>	Jamacha to Steele Canyon	73.7	73.8	0.1	76.0	76.1	0.1	2.3
	Steele Canyon Road to Lyons Valley	73.1	73.3	0.2	75.8	75.9	0.1	2.6
	Lyons Valley Road to Melody Road	71.3	72.5	1.2	74.6	74.8	0.2	2.3

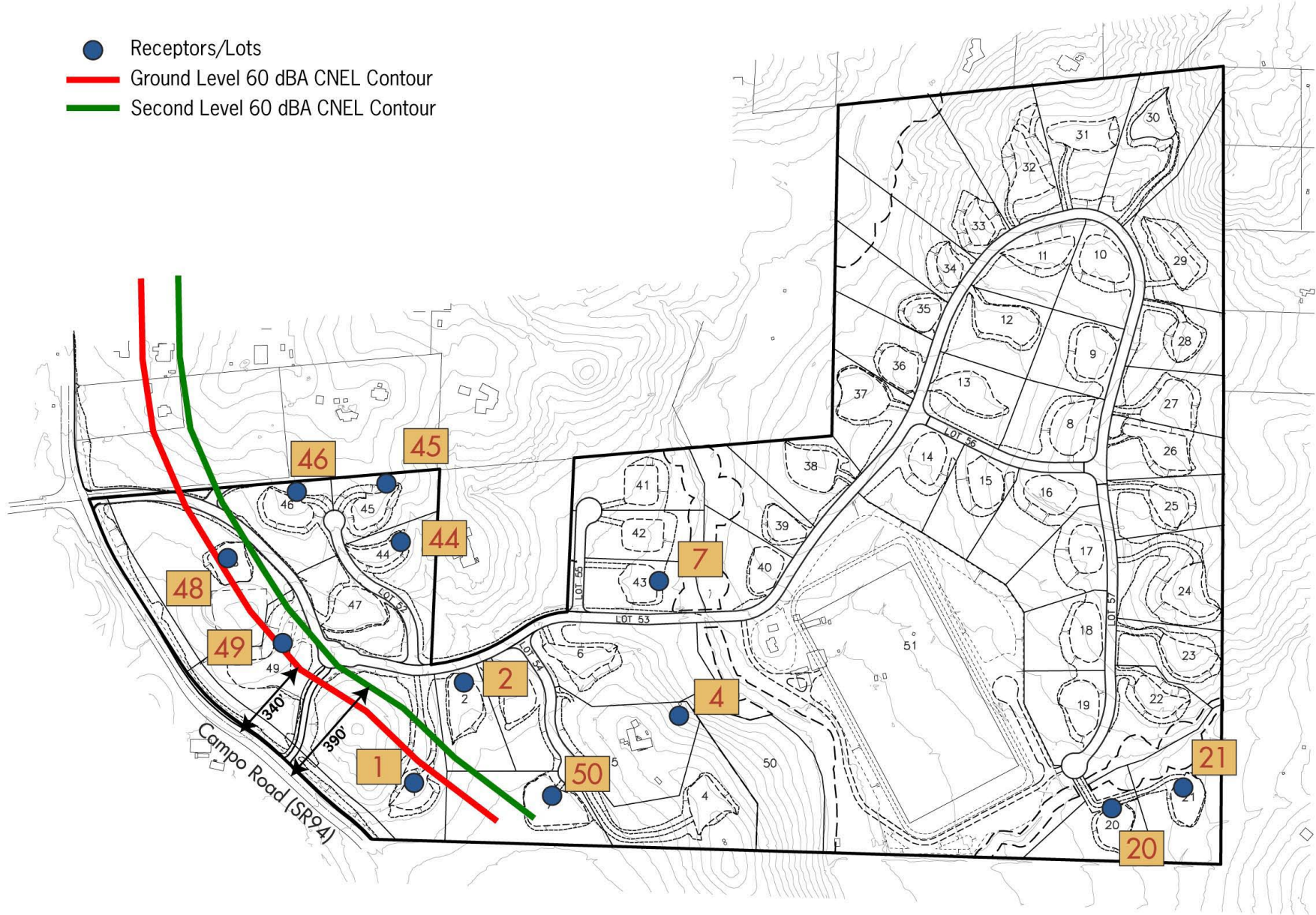
dBA = A-weighted decibels

CNEL = community noise equivalent level

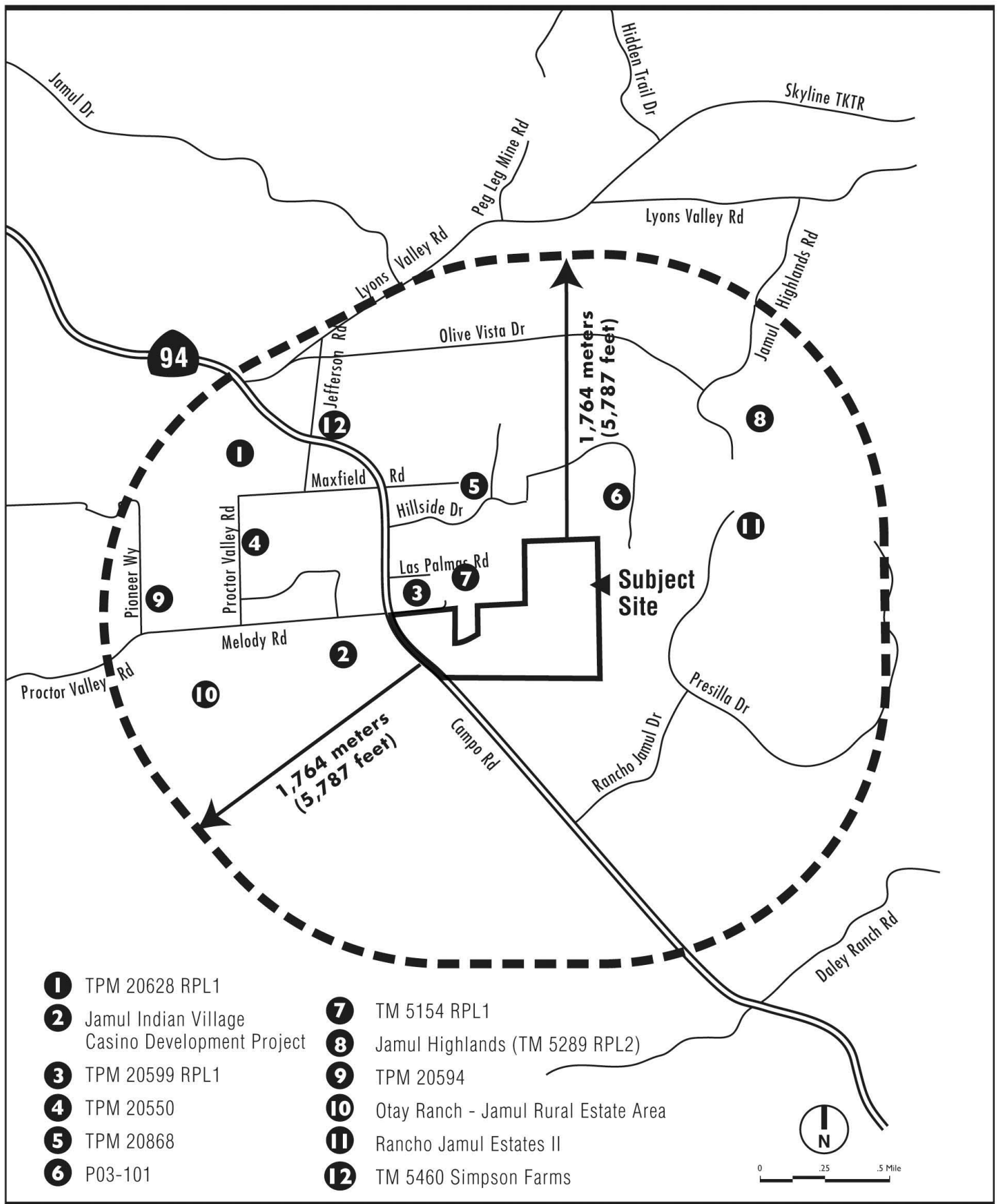
SPL = Sound Pressure Level

All values are in dBA CNEL. Contours are assumed to be line-of-sight perpendicular (⊥) distance.

- Receptors/Lots
- Ground Level 60 dBA CNEL Contour
- Second Level 60 dBA CNEL Contour



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